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John W. Robinson

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EXAMINER

SELLERS, ROBERT E

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JOHN W. ROBINSON and CRAIG L. CARTWRIGHT

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Appeal 2009-010592  
Application 10/612,850  
Technology Center 1700

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Before MICHAEL P. COLAIANNI, BRADLEY R. GARRIS, and  
ADRIENE LEPIANE HANLON, *Administrative Patent Judges*.

GARRIS, *Administrative Patent Judge*.

DECISION ON APPEAL<sup>1</sup>

Appellants appeal under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1-3, 8, 9, 11, and 30. We have jurisdiction under 35 U.S.C. § 6.

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the "MAIL DATE" (paper delivery mode) or the "NOTIFICATION DATE" (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

We AFFIRM.

Appellants claim a curable composition comprising an epoxy resin, a reactive liquid polymer comprising a carboxyl-terminated butadiene-acrylonitrile copolymer, and the reaction product of a reactive liquid polymer and an epoxy resin comprising a diglycidyl ether of a bisphenol compound (claims 1, 30). The copolymer can be liquid at ambient temperature (claim 1).

Representative claim 1 reads as follows:

1. A curable composition comprising a) at least one epoxy resin, b) at least one reactive liquid polymer comprising a carboxyl-terminated butadiene-acrylonitrile copolymer, which polymer is liquid at ambient temperature, and c) at least one reaction product of an epoxy resin and a reactive liquid polymer, wherein the epoxy resin of (c) comprises a diglycidyl ether of a bisphenol compound.

The Examiner rejects all appealed claims under 35 U.S.C. § 112, 1st paragraph, as failing to comply with the enablement requirement (Ans. 3-4).

The Examiner also rejects all appealed claims under 35 U.S.C. § 103 (a) as being unpatentable over Minamisawa (US Patent 4,500,660 issued February 19, 1985) and JP '679 (JP 64-60679 published March 7, 1989) (*id.* at 4-5).

We will sustain each of these rejections for the reasons expressed in the Answer (*id.* at 3-10) and below.

The § 112, 1st paragraph, rejection

According to the Examiner, a single epoxy group cannot react with a curing agent, and accordingly the appealed claims are not enabled for the curable epoxy resin embodiment encompassed by independent claims 1 and 30 (i.e., the claimed ingredient (a)) and described in the Specification

wherein the epoxy resin is a monoepoxide or a monoepoxy silane (Ans. 3-4; Spec. 6:30-7:1, 7:16-18). As support for this position, the Examiner relies on the Specification definition of an epoxy resin as a compound containing more than one epoxy group (Ans. 3-4; Spec. 5:29-6:1). The Examiner also relies on Exhibits A-C (i.e., *Handbook of Epoxy Resins*, *Concise Encyclopedia of Chemical Technology*, and *Hawley's Condensed Chemical Dictionary*) which are attached to Appellants' Appeal Brief (Ans. 5-6). Finally, the Examiner finds that undue experimentation would be required to enable practice of the claimed embodiment wherein the curable epoxy resin is a monoepoxide or a monoepoxy silane (*id.* at 6-9).

As support for the proposition that a curable epoxy resin may contain only a single epoxy group, Appellants rely on the singular language used in Exhibits A-C (App. Br. 5-6). For example, Appellants point out that *Hawley's Condensed Chemical Dictionary* describes an epoxy resin as a resin "based on the reactivity of the epoxy group" and argue that "[u]sing the singular term 'epoxide group' indicates that two or more epoxy groups are not required for an epoxy resin" (App. Br. 6 quoting p. 468).

Appellants' above noted argument and evidence are unconvincing. The singular language referred to by Appellants does not evince that a curable epoxy resin may contain only a single epoxy group. This is because such language may be accurately used in describing a resin which contains plural epoxy groups.

As further support for their proposition, Appellants present new argument and evidence in the Reply Brief (Reply Br. 3-4) which were not but could have been presented in the Appeal Brief. We will not consider this new argument and evidence because Appellants have not explained why

they were not presented in the Appeal Brief. Under regulations governing appeals to the Board, any argument/evidence not timely presented in the Appeal Brief will not be considered when filed in a Reply Brief, absent a showing of good cause explaining why the argument/evidence could not have been presented in the Appeal Brief. *See Ex parte Borden*, Appeal No. 2008-004312, 93 USPQ 1473, 1473-77 (BPAI Jan. 7, 2010).

For the reasons set forth above and in the Answer, we share the Examiner's determination that the appealed claims fail to comply with the enablement requirement in the first paragraph of § 112. We sustain, therefore, the § 112, first paragraph, rejection of all appealed claims.

The § 103(a) rejection

The Examiner finds that each of Minamisawa and JP '679 teaches or would have suggested Appellants' claimed composition comprising the claimed reactive liquid polymer (claims 1, 30), including the claimed embodiment wherein the polymer is liquid at ambient temperature (claim 1) (Answer 4-5, 9-10).

Appellants argue that the applied references contain no teaching or suggestion of a reactive liquid polymer that is liquid at ambient temperature (App. Br. 9-11).

This argument is unpersuasive.

As an initial matter, we observe that independent claim 30 contains no requirement that the recited reactive liquid polymer is a liquid at ambient temperature. Therefore, we agree with the Examiner's undisputed finding that polymer E of Minamisawa's composition would be liquid at high temperatures and thus would satisfy the liquid polymer requirement of claim 30 (Ans. 9). Moreover, because neither independent claim 1 nor

independent claim 30 excludes a polymer which is liquid by virtue of being dissolved in a solvent, we share the Examiner's finding that the liquid polymer requirement of these claims is satisfied by the solvent-dissolved polymer in Application Example 5 of JP '679 (*id.* at 10).

Finally, we agree with the Examiner's conclusion that it would have been obvious to use the carboxyl-terminated butadiene-acrylonitrile copolymers of Minamisawa and JP '679 in liquid form in order to facilitate processing (*id.*). On this record, it is undisputed that such polymers in liquid form were known in the prior art. Appellants have provided no convincing explanation of why one with ordinary skill in this art would not have used these known liquid polymers in order to obtain the predictable advantages described by the Examiner. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 415-16 (2007) ("The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.").

For these reasons and the reasons expressed in the Answer, we also sustain the § 103 rejection of all appealed claims over Minamisawa and JP '679.

#### Conclusion

The decision of the Examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a) (2008).

AFFIRMED

Appeal 2009-010592  
Application 10/612,850

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